

EVANGELOS E. MILIOS
CURRICULUM VITAE

May 12, 2010

A. BIOGRAPHICAL INFORMATION

1. Contact Information

University Address Faculty of Computer Science, Dalhousie University, Halifax, Nova Scotia, B3J 2X4

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2. Degrees

Ph.D. *Massachusetts Institute of Technology*, Electrical Engineering and Computer Science.
Thesis: Signal Processing and Interpretation using Multilevel Signal Abstractions.
Advisor: Professor Alan V. Oppenheim.
Date: June 1986

S.M. & E.E. *Massachusetts Institute of Technology*, Electrical Engineering and Computer Science.
Thesis: Speech synthesis using the Phase of the Long-time Fourier Transform of the LPC Residual Signal.
Advisor: Professor Alan V. Oppenheim.
Date: May 1983
GPA: 5.0/5.0

Dipl. Eng. *National Technical University, Athens, Greece*, Electrical Engineering.
Thesis: Fast Algorithms for Linear Prediction and System Identification.
Advisor: Dr. G. Carayannis and Professor E. Protonotarios.
Date: June 1980
GPA: 9.3/10.0

3. Employment

7/00 - present Professor,
Faculty of Computer Science, Dalhousie University.

7/98 - 6/00 Associate Professor,
Faculty of Computer Science, Dalhousie University.

7/91 - 6/98 Associate Professor, (tenured since 4/94),
Department of Computer Science, York University.

10/90 - 11/90 Visiting Professor
Research Institute for Applied Knowledge Processing (FAW), University of Ulm, Germany.

1/88-6/91 Senior Research Scientist,
Department of Computer Science, University of Toronto.

4/86-12/87 Research Associate,
Department of Computer Science, University of Toronto.

9/82-4/86 Research Assistant
Dept. of El.Eng. Comp. Sci., M.I.T., and
Machine Intelligence Technology Group, MIT Lincoln Laboratory.

4. Honors

Killam Chair of Computer Science, Dalhousie University	2006-2011
Senior Member of the IEEE	1998-now
MIT Departmental Fellowship	1980-1981
Bodossakis Foundation Postgraduate Fellowship	1980-1982
Fellowship, National Fellowship Foundation, Greece	1975-1980
Technical Chamber of Greece Annual Award	1976-1980
Hellenic Mathematical Society, First National Prize in annual national mathematics competition of high-school graduates	1975

5. Professional Affiliations and Activities

- Senior Member of the Institute of Electrical and Electronic Engineers (IEEE).
- Member of the Association of Professional Engineers Ontario (PEO).
- Natural Sciences and Engineering Research Council of Canada, Discovery Grants Program Competition: Member of Grant Selection Committee 331 (2008), and of Evaluation Group 1507 (2009-2010).
- Co-editor-in-chief, Computational Intelligence, 2007-present.
- Scientific advisor, Palomino System Innovations Inc., Toronto, Ontario, since Jan. 2009
<http://www.palominosys.com/aboutus/team/index.html>
- Keynote speaker at the Canadian AI conference, May 31-June 2, 2010.
- Keynote speaker at the Workshop on Mining Social Data (MSoDa), 18th European Conference on Artificial Intelligence (ECAI 2008), 21 July 2008.
- Member of the Program Committee of ACM Hypertext Conference 2009, track on People, resources and annotations.
<http://www.ht2009.org/track2.php>
- Member of the Program Committee of the First Int. Workshop on Modeling, Managing and Mining of Evolving Social Networks (M3SN) 2009, collocated with IEEE ICDE 2009.
<http://research.microsoft.com/en-us/um/redmond/events/m3sn/>
- Member of the Program Committee of the Hypertext 2008, track on Social Linking.
<http://www.sigweb.org/ht08/home/soclinking.html>
- Member of the Program Committee of the Posters and Demos of the Association for Computational Linguistics conference, ACL 2007, <http://ufal.mff.cuni.cz/acl2007/demos/>.
- Member of the Program Committee member of the Workshop on Web Privacy Intelligence affiliated with the IEEE/WIC/ACM Int. Conf. on Web Intelligence and Intelligent Agent Technologies in Hong Kong on December 18-22, 2006. <http://www.comp.hkbu.edu.hk/iwi06/wi/?index=workshop>
- Member of the Program Committee of the Eleventh International Symposium on Health Information Management Research iSHIMR2006, July 14-16, 2006 Halifax, Nova Scotia, Canada, <http://www.cs.dal.ca/ishimr2006>
- Member of the Program Committee of the AAI 2006 conference (Association for the Advancement of Artificial Intelligence).
- Member of the Technical Program Committee of the Third Canadian Conference on Computer and Robot Vision, 2006.
- Editorial Board, Computational Intelligence (2003-2006).
- Member of the Precarn / IRIS Research Management Committee, Precarn Inc., 2002-now.
- Member of the Program Committee of the Web Information and Data Management Workshop, November 5, 2005 Bremen, Germany In conjunction with the 14th CIKM 2005 In cooperation with ACM SIGMOD Sponsored by ACM SIGIR
- Member of the Program Committee of the Third Annual Conference on Communication Networks

and Services (CNSR 2005), Halifax, Nova Scotia, Canada May 16 - 18, 2005.

- General Co-Chair of the 2005 International Conference on Intelligent Mechatronics and Automation August 8-11, 2005, Niagara Falls, Ontario, Canada
- Member of the Technical Program Committee of the Canadian Artificial Intelligence Conference 2005.
- Member of the Technical Program Committee of the Second Canadian Conference on Computer and Robot Vision, 2005.
- Member of the Technical Program Committee of the Canadian Artificial Intelligence Conference 2004.
- Member of the Technical Program Committee of the First Canadian Conference on Computer and Robot Vision, 2004.
- Member of the Program Committee of the Second Annual Conference on Communication Networks and Services (CNSR 2004), May 19-21, 2004, Fredericton, Canada.
- Member of the Program Committee of the AAMAS 2003 Workshop on Engineering Self-Organising Applications 15 July 2003, Melbourne, Australia.
- Member of the Technical Program Committee of the Canadian Artificial Intelligence Conference 2003 and Vision Interface 2003.
- Member of the Technical Program Committee of the Canadian Artificial Intelligence Conference 2002.
- Member of the Technical program committee of the Image Processing and Signal Processing track of the International Conference on Pattern Recognition, ICPR 2002.
- Member of the organizing committee of the SIGART/AAAI Doctoral Consortium, 1999-2001,
- Co-editor (with G. Dudek and M. Jenkin) of the Special Issue on "Perception for Mobile Agents" of the journal *Image and Vision Computing*, with revised versions of the best WPMA-2 papers, Vol 19, 2001.
- Co-editor (with G. Dudek and M. Jenkin) of the Special Issue on "Perception for Mobile Agents" of the journal *Autonomous Robots*, with revised versions of the best WPMA-1 papers, April 2000, Vol. 8, No. 2, pp. 103-199.
- Co-organizer of the Workshop on "Perception for Mobile Agents", WPMA-2, IEEE Computer Vision and Pattern Recognition Conference, Fort Collins, Colorado, June 26, 1999.
- Co-organizer of the Workshop on "Perception for Mobile Agents", WPMA-1, IEEE Computer Vision and Pattern Recognition Conference, University of California, Santa Barbara, June 26, 1998.
- Member of the Scientific Committee of the 2nd and 3rd International Workshops on Visual Form, Capri, Italy, 1997.
- Member of the Program Committee of "Artificial Intelligence", and "Vision Interface" conferences, 21-24 May 1996, Toronto, Ontario, Canada.
- Invited speaker at the "Information Processing for Intelligent Service Robots" Workshop, in conjunction with the 1996 IEEE Int. Conference on Robotics and Automation, April 22-28, Minneapolis, Minnesota.
- Member of the Program Committee of "Sensor Fusion and Networked Robotics VIII", SPIE Int. Symp. on Intelligent Systems and Advanced Manufacturing: Sensors and Software for Improved Performance and Productivity, 23-26 October 1995, Pennsylvania Convention Centre, Philadelphia, PA.
- Member of the Program Committee of "Sensor Fusion VII", SPIE OE/Technology Symposium, Hynes Convention Center, Boston, Massachusetts, 31 October - 4 November 1994.
- Member of the Scientific Committee of the 2nd and 3rd International Workshops on Visual Form, Capri, Italy, 1994.
- Treasurer and Member of the Program Committee, Vision Interface 1993.
- Session Co-Chair, "Active Hand-Eye", May 4, Session TP II-7, IEEE International Conference on Robotics and Automation, May 2-7, 1993, Atlanta, GA, USA.
- Session Chair, "Model Based Vision II", July 9, 15:30-17:45, 1992 IEEE International Conference on

Intelligent Robots and Systems, July 7-10, Raleigh, North Carolina, USA.

- Co-organizer (with J. Crowley) of a workshop on “Sensing and Spatial Reasoning for Mobile Robots”, May 15, 1992, IEEE Conference on Robotics and Automation, Nice, France.
- Member of the ACM Doctoral Dissertation Award Committee, 1990, 1991.
- Member of the Program Committee, Vision Interface 1991.
- Member of the visiting committee of the NSERC Information Systems and Manufacturing Systems Selection Panel, July 10, 1991.
- Proposal Referee for the National Sciences and Engineering Research Council of Canada.
- Reviewer for the IEEE Transactions on Acoustics, Speech and Signal Processing, the IEEE Transactions on Circuits and Systems, the IEEE Computer, the IEEE Transactions on Pattern Analysis and Machine Intelligence, the IEEE Transactions on Systems, Man, and Cybernetics, the Journal of Computational Intelligence, the International Journal on Computer Vision, the International Conference on Computer Vision, the IEEE Conference on Computer Vision and Pattern Recognition, the International Joint Conference on Artificial Intelligence. Book reviewer for Canadian Artificial Intelligence.
- *Science Speakers Bureau, York University*: I regularly gave presentations to high-school students on the fields of robotics and artificial intelligence.
- Member of the IEEE Computer Society, the Association for Computing Machinery, the Canadian Society for Computational Studies of Intelligence, and the Technical Chamber of Greece.

B. ACADEMIC HISTORY

6a. Research Awards

Abbreviations:

NSERC:	Natural Sciences and Engineering Research Council of Canada.
PRECARN:	Precarn Associates Ltd.
NCE:	Inter-Council Program Directorate, Networks of Centres of Excellence
ITRC:	Information Technology Research Centre
OGS:	Ontario Geological Survey, Ministry of Northern Development and Mines
DSS:	Department of Supplies and Services, for the Defense Research Establishment Atlantic (currently Department of Public Works and Government Services)
CITO	Communications and Information Technology Ontario
CSE	Communications Security Establishment
MITACS	Mathematics of Information Technology and Complex Systems (MITACS) Federal Network of Centres of Excellence

Research Grants

2008/11-2013/10	\$ 1,000,000 (per year), NSERC Strategic Network Grants Program, “Business Intelligence Network”, R. Miller (U. of Toronto - PI) and 7 co-applicants.
2008/11-2011/10	\$ 64,800 (per year), NSERC Strategic Project, “Information extraction for retrieval in dynamic system administration”, N. Zincir-Heywood (PI), E. Milios.
2005-2008	\$198,565, \$144,020, \$144,020 (years 1,2,3), NSERC Strategic Project Grant, “Aquatic Walking Robot”, M. Jenkin (PI, York), G. Dudek (McGill), E. Milios, D. Kramer (McGill).
2004-2007	\$99,000/year, NSERC Collaborative Research and Development Grant, “Concept mapping and semantic modelling on peer-to-peer networks”, E. Milios (PL), R. Abidi, J. Janssen, V. Keselj, J. Mylopoulos (UofT), N. Zincir-Heywood
2004	\$26,780 NSERC Research Tools and Instruments - Category 1, “An autonomous mobile robotic raft”, E. Milios (PI), J. Gu.
2004-2009	\$35,000/year, NSERC Discovery Grant, “Topical Crawling, Summarization and Clustering in Networked Information Spaces”.
2006-2008	\$76,400/year, Mathematics of Information Technology and Complex Systems (MITACS) Federal Network of Centres of Excellence, and CSE, “Modelling and Mining of Networked Information Spaces”, co-leader with J. Janssen.
2003-2005	\$50,000/year, Mathematics of Information Technology and Complex Systems (MITACS) Federal Network of Centres of Excellence, “Modelling and Mining of Networked Information Spaces”, co-leader with J. Janssen.
2002-2005	\$578,000 over 3 years, Institute for Robotics and Intelligent Systems (IRIS) Federal Network of Centres of Excellence, “Autonomous Aquatic Walking Robot”, with M. Jenkin (PL, York U.), G. Dudek, M. Buehler (McGill U.).
2002	\$58,000, Mathematics of Information Technology and Complex Systems (MITACS) Federal Network of Centres of Excellence, “Modelling and Mining of Networked Information Spaces”, co-leader with J. Janssen.
2000-2004	\$32,000/year, NSERC Research Grant, “Purposive Web Robots for Exploration of Multimedia Information on the World Wide Web’.
1998-2000	\$50,000/year over two years, CITO grant, “Eyes ’n Ears: A System for Attentive Teleconferencing”, with M. Jenkin (PL).
1996-2000	\$25,500/year, NSERC Research Grant, “Interpretation of natural form in images and sounds”.

1999-2002	\$228,000 over three years, Ontario Research and Development Challenge Fund (ORDCF), “Improvements to the Centre for Vision Research at York University”, with several others from York University.
1999-2002	\$5,800,000 over three years, Canadian Foundation for Innovation (\$2,400,000), ORDCF (\$2,400,000), industrial partner(SGI, \$1,000,000), “Active Sensory Processing in Real and Synthetic Environments”, with several others from York University.
1995-1996	\$8,000, Ontario Hydro, Feasibility study for Precarn project, “Acrobat: autonomous climbing robots”, (with M. Jenkin).
1993	\$3,800, Ontario-Quebec Exchange program, “Multiple interacting autonomous agents”, (with G. Dudek, M. Jenkin (PI), D. Wilkes).
1993	\$24,600, NSERC Equipment Grant, “A next generation stereo head”, (with M. Jenkin (PI), J. Tsotsos).
1993-1996	\$17,000/year, NSERC Research Grant, “Sensor-based Mobile Robotics”.
1992-1993	\$ 1,950, Ontario-Quebec Exchange program, “Mobile Robot Navigation and World Modelling using Range Sensing”, (PI, with M. Jenkin and G. Dudek).
1992	\$ 16,412, NSERC Equipment Grant, “High-performance graphics equipment upgrade” (with J. Amanatides, M. Jenkin (P.I.), and M. Spetsakis).
1991	\$ 2,500, Ontario-Quebec Exchange program, “Sonar based robotic exploration”, (with M. Jenkin (P.I.) and G. Dudek).
1991-1995	\$ 324,168, PRECARN, “Active Vision Navigation of a Mobile Robot in a Known Environment” (with M. Jenkin). Joint project with Ontario Hydro, Atomic Energy of Canada Ltd, and University of Toronto. The project was part of the university component (\$1,231,860) of the \$5.9M ARK Project. Principal Investigator: Dr. B. Nickerson, Ontario Hydro Research Division. Principal co-applicant with M. Jenkin.
1990-1994	\$ 10,000. NCE, Part of the \$1,3M project “Active Vision for Mobile Robotics”, (J. Tsotsos (P.I.), A. Jepson, D. Terzopoulos, E. Miliotis, M. Jenkin). Network Leader: G. McNabb.
1990-1993	\$ 17,611/year, NSERC, Operating Grant, yearly, for 3 years. “Reasoning about spatial form: Robot navigation and exploration and shape recognition”.
1988-1989	\$ 271,282. ITRC. Research in Biological and Computational Vision I (J. Tsotsos (P.I.), R. Reiter (P.I.), A. Jepson, E. Miliotis).
1988-1989	\$ 235,000. ITRC. Research in Biological and Computational Vision II (J. Tsotsos (P.I.), A. Jepson, E. Miliotis).
1988-1990	\$ 16,000/year, NSERC, Operating Grant.
1988	\$ 100,000. PRECARN. Mobile Robotics Feasibility Study (participants: Ontario Hydro, AECL, York University, University of Toronto).

Research Contracts

2009/01-2011/06	\$ 1,719,151, CANARIE Network Enabled Platforms Program, “Platform for Ocean Knowledge Management”, S.R. Abidi (PI), N. Zincir-Heywood, E. Miliotis, and several Ocean Scientists.
2006/09-2008/08	\$ 357,625, Precarn Small Company Program, “NETPAL, Dynamic Network Administration”, E. Miliotis and N. Zincir-Heywood (co-PIs at Dalhousie), Palomino Inc. (Lead Applicant), Telecom Applications Research Alliance.
9/1996 - 3/1997	\$ 20,000, DSS “Intersensor association of passive narrowband signals from sonobuoys using constraint satisfaction techniques” (E. Miliotis-P.I., M. Jenkin).
5/1995 - 3/1997	\$ 50,000, DSS “Development of a Towed Array Shape Estimation for Real Time Sonar Systems”.

5/1995 - 3/1996	\$ 20,000, DSS, “Acoustic localization from bearing and frequency at spatially distributed sensors” (E. Milios-P.I., M. Jenkin).
10/1994 - 3/1995	\$ 20,000, DSS, “Numeric and Symbolic Processing for Sonar Information Management, Phase II: A knowledge-based signal processing architecture” (E. Milios-P.I., M. Jenkin).
9/1993 - 3/1994	\$ 15,000, DSS, “Numeric and Symbolic Processing for Sonar Information Management” (E. Milios-P.I., M. Jenkin).
5/1990-10/1990	\$ 60,000, OGS, “Design and Implementation of a Map Label Placement Program” (E. Milios-P.I., J. Tsotsos, R. Reiter).
7/1988-3/1989	\$ 42,120, OGS, “A Knowledge Representation Formalism for Geoscience” (E. Milios-P.I., J. Tsotsos, J. Mylopoulos).
7/1988-3/1989	\$ 14,950, OGS, “Design of a Map Label Placement Program” (E. Milios-P.I., J. Tsotsos).
3/1988	\$ 8,112, OGS, “A Feasibility Study of the Application of Artificial Intelligence to Geoscience” (J. Tsotsos-P.I., E. Milios).

Internal Research Funding

1995-1996	\$4,000, York Incentive Grant, “Acrobat: autonomous climbing robots and associated technologies” (with M. Jenkin).
1993	\$3,000, President’s NSERC, York University, “VGR Lab Colour X terminal”.
1991	\$ 4,000, President’s NSERC, York University, “Sensor-based robotics laboratory facility” (with M. Jenkin, M. Spetsakis, J. Amanatides).
1990-1991	\$ 25,000, York University, Startup Research Grant.
1988-1990	\$ 10,000, Connaught Grant, University of Toronto.

Teaching grants

1994-1995	\$ 5,000, SCOTL (Senate Committee on Teaching and Learning) Teaching-Learning Development Grant, “Design of Laboratory Exercises for a Robot Building Course”, with M. Jenkin, M. Spetsakis.
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6b. Patents

1. Jasiobedzki P., Jenkin M., Milios E., Down B., Tsotsos J., Campbell T.: “Imaging and Ranging Apparatus and Aiming Method”. Canadian patent # 2,105,501, 1995.

C. SCHOLARLY AND PROFESSIONAL WORK

7. Publications

7a. Articles in Refereed Journals

1. Adetokunbo Makanju, A. Nur Zincir-Heywood, Evangelos E. Milios: “Robust Learning Intrusion Detection for Attacks on Wireless Networks”, *Intelligent Data Analysis: An International Journal (IDA)*, Vol. 7 No. 6: pp 1-9. 2010
2. Sotiris Batsakis, Euripides G.M. Petrakis, Evangelos Milios: “Improving the Performance of Focused Web Crawlers”, *Data and Knowledge Engineering*, Vol. 68, No. 10, October 2009, pp. 1001-1013.
3. B. Kapralos, M. R. Jenkin, and E. Milios: “Sonel Mapping: A Probabilistic Acoustical Modeling Method”, *Building Acoustics*, Vol. 15(4):289-313, 2008.
4. B. Kapralos, M. R. Jenkin, and E. Milios: “Virtual Audio Systems”, *PRESENCE: Teleoperators and Virtual Environments*, MIT Press Vol. 17, No. 6, pp. 527-549, December 2008.
5. Evdioxios Baratis, Euripides G.M. Petrakis, Evangelos Milios: “Automatic Web Site Summarization by Image Content: A Case Study with Logo and Trademark Images”, *IEEE Transactions on Knowledge and Data Engineering*, Vol. 20, No. 7, September 2008, pp. 1195-1204.
6. Yongzheng Zhang, Evangelos Milios, Nur Zincir-Heywood: “A Comparative Study on Key Phrase Extraction Methods in Automatic Web Site Summarization”, *Journal of Digital Information Management*, Vol. 5(5), Oct. 2007
7. Gregory Dudek, Philippe Giguere, Chris Prahacs, Shane Saunderson, Junaed Sattar, Luz-Abril Torres-Mendez, Michael Jenkin, Andrew German, Andrew Hogue, Arlene Ripsman, Jim Zacher, Evangelos Milios, Hui Liu, Pifu Zhang, Martin Buehler, Christina Georgiades, “AQUA: An amphibious autonomous robot”, *IEEE Computer*, pp. 46-53, January 2007.
8. Angelos Hliaoutakis, Giannis Varelas, Epimenidis Voutsakis, Euripides G. M. Petrakis, Evangelos Milios: “Information Retrieval by Semantic Similarity”, *Int'l Journal on Semantic Web and Information Systems*, 2(3), pp. 55-73, July-September 2006
9. Hongyu Liu, Jeannette Janssen, Evangelos Milios: “Using HMM to Learn User Browsing Patterns for Focused Web Crawling”, *Data and Knowledge Engineering*, Volume 59, Issue 2, November 2006, Pages 270-291.
10. H. Liu, E. Milios: “Acoustic Positioning Using Multiple Microphone Arrays”, *Journal of the Acoustical Society of America*, Volume 117, Issue 5, pp. 2772-2782 May 2005.
11. Wangzhong Lu, J. Janssen, E. Milios, N. Japkowicz, Yongzheng Zhang, “Node similarity in the citation graph”, *Knowledge and Information Systems*, May 2006, Pages 1 - 25, DOI 10.1007/s10115-006-0023-9,
12. Syed Sibte Raza Abidi, Michael Kershaw, and Evangelos Milios: “Augmenting GEM-encoded clinical practice guidelines with relevant best evidence autonomously retrieved from MEDLINE”, *Health Informatics Journal* 2005 11(2): 95-110 The article was also presented at the 9th International Symposium on Health Information Management Research (iSHIMR2004), Sheffield, 15-17 June 2004. Sheffield University Press (ISBN 0 903522 39 X), pp. 111-126. Second-best paper award.
13. Z. Shi, E. Milios, N. Zincir-Heywood: “Post-supervised Template Induction for Information Extraction from Lists and Tables in Dynamic Web Sources”, *Journal of Intelligent Information Systems: Integrating Artificial Intelligence and Database Technologies*, Kluwer, 22:4, 1-25, 2005.
14. Y. Zhang, N. Zincir-Heywood, E. Milios: “World Wide Web Site Summarization”, *Web Intelligence and Agent Systems: An International Journal* (The Web Intelligence Consortium), 2(1), pages 39-53, 2004.
15. Y. An, J. Janssen, E. Milios: “Characterizing and Mining the Citation Graph of Computer Science”, *Knowledge and Information Systems*, Volume 6, Number 6 (November 2004), pp. 664-678.

16. B. Kapralos, M. Jenkin, E. Milios: "Audio-visual localization of multiple speakers in a video teleconferencing setting", *International Journal of Imaging Systems and Technology*, special issue on Facial Image Processing, Analysis and Synthesis, Vol. 13(1), pp. 95-105, June 2003. accepted: Dec. 24. 2002. online: <http://www3.interscience.wiley.com/cgi-bin/issuetoc?ID=104536326>
17. F. Lu, E. Milios, S. Stergiopoulos and A. Dhanantwari: "New towed array shape-estimation scheme for real time sonar systems", *IEEE Journal of Oceanic Engineering*, Vol: 28 Issue 3, July 2003, pp. 552-563.
18. G. Reid, E. Milios: "Active Stereo Sound Localization", *Journal of the Acoustical Society of America*, Volume 113, Issue 1, January 2003 pp. 185-193.
19. E. Petrakis, A. Diplaros, E. Milios: "Matching and Retrieval of Distorted and Occluded Shapes Using Dynamic Programming", *IEEE Transactions on Pattern Analysis and Machine Intelligence*. Vol. 24, No. 11, November 2002, pp. 1501-1516.
20. E. Milios, B. Kapralos, A. Kopinska, S.S. Stergiopoulos: "Sonification of Range Information for 3D Space Perception", *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, Vol. 11, No. 4, Dec. 2003, pp. 416-421.
21. R. Herpers, Derpanis, K., MacLean, W. J., Verghese, G., Jenkin, M., Milios, E., Jepson, A., and Tsotsos, J. K., SAVI: an actively controlled teleconferencing system, *Image and Vision Computing*, 19: 793-804, 2001.
22. X. Deng, E. Milios, A. Mirzaian: "Robot Map Verification of a Graph World", *Journal of Combinatorial Optimization*, 5 (4):383-395, December 2001, Kluwer Academic Publishers.
23. I. Rekleitis, G. Dudek, E. Milios: "Multi-Robot Collaboration for Robust Exploration", *Annals of Mathematics and Artificial Intelligence, Special Issue on: Mathematical Aspects of Ant-Robotic Multi-Agent Systems*, volume 31, number 1-4, pp. 7-40, 2001.
24. E. Milios, E. Petrakis: "Shape Retrieval Based on Dynamic Programming", *IEEE Transactions on Image Processing*, Special Issue on Image and Video Processing for Digital Libraries, January 2000, Vol. 9(1), pp. 141-147.
25. Tsotsos, J.K., Verghese, G., Dickinson, S., Jenkin, M., Jepson, A., Milios, E., Nufflo, F., Stevenson, S., Black, M., Metaxas, D., Culhane, S., Ye, Y., Mann, R., "PLAYBOT: A visually-guided robot to assist physically disabled children in play", *Image & Vision Computing*, Special Issue on Vision for the Disabled, Vol. 16: 275-292, 1998.
26. S. B. Nickerson, P. Jasiobedzki, D. Wilkes, M. Jenkin, E. Milios, J. Tsotsos, A. Jepson and O. N. Bains, "The ARK project: Autonomous mobile robots for known industrial environments", *Robotics and Autonomous Systems*, Vol. 23, Nos. 1-2, October 1998, 83-104.
27. F. Lu, E. Milios: "Globally Consistent Range Scan Alignment for Environment Mapping", *Autonomous Robots*, vol. 4, No. 4, pp. 333-349, 1997.
28. Feng Lu, E. Milios: "Robot Pose Estimation in Unknown Environments by matching 2D Range Scans", *Journal of Intelligent and Robotic Systems*, vol. 18, pp. 249-275, 1997.
29. Dudek, G., Jenkin, M., Milios, E., and Wilkes, D., "Map Validation and Robot Self-Location in a Graph-Like World", *Robotics and Autonomous Systems*, Vol. 22(2), November 1997, pp. 159-178.
30. Dudek, G., Jenkin, M., Milios, E., and Wilkes, D., "A Taxonomy for Multiagent Robotics", *Autonomous Robots*, Vol 3, 375-397, 1996.
31. X. Deng, E. Milios, A. Mirzaian "Landmark selection strategies for path execution", *Robotics and Autonomous Systems*, 17 (1996) pp. 171-185.
32. Feng Lu, E. Milios: "Optimal Spline Fitting to Planar Shape", *Signal Processing*, Elsevier Science Publishers, Vol. 37 (1994), 129-140.
33. J. Cooperstock and E. Milios. "Self-supervised learning for docking and target reaching. *Journal of Robotics and Autonomous Systems*, Vol. 11, 1993, pp. 243-260.
34. E. Milios, M. Jenkin, J. Tsotsos: "Design and Performance of TRISH, a Binocular Robot Head with Torsional Eye Movements", *International Journal of Pattern Recognition and Artificial Intelli-*

gence, special issue on “Active Robot Vision: Camera Heads, Model Based Navigation and Reactive Control”, Volume 7, Number 1, February 1993, pp. 51-68.

35. I. Pitas, E. Milios, A. Venetsanopoulos: “Minimum Entropy Approach to Rule Learning from Examples”, IEEE Transactions on Systems, Man and Cybernetics, Vol. 22(4), July-August 1992, pp. 621-635.
36. D. Metaxas, E. Milios: “Reconstruction of a color image from sparse, noisy, and nonuniform data”, Computer Vision, Graphics, and Image Processing (Graphical Models and Image Processing), vol. 54, No. 2, March 1992, pp. 103-111.
37. G. Dudek, M. Jenkin, E. Milios, D. Wilkes: “Robotic Exploration as Graph Construction”, IEEE Transactions on Robotics and Automation, Vol. 7, No. 6, December 1991, pp. 859-865.
38. E. Milios, H. Nawab: “Acoustic tracking from CPA time, power, and frequency at spatially distributed sensors”, Journal of the Acoustical Society of America, February 1990, pp. 1026-1034.
39. E. Milios: “Shape Matching using Curvature Processes”, Computer Vision, Graphics, and Image Processing, Vol. 47 (2), August 1989, pp. 203-226. Also reprinted in AUTOMATIC OBJECT RECOGNITION, edited by Hatem Nasr, published by SPIE, The International Society for Optical Engineering, 1992.
40. R. Lee, E. Milios, R. Greiner, J. Rossiter, and A. Venetsanopoulos: “On the machine analysis of radar signals for ice profiling”, Signal Processing, Elsevier Science Publishers, Vol. 18, No. 4, December 1989, pp. 371-386.
41. E. Milios, H. Nawab: “Signal Abstractions in Signal Processing Software”, IEEE Transactions on Acoustics, Speech and Signal Processing, Vol. 37, No. 6, June 1989, pp. 913-928.
42. H. Nawab, V. Lesser, E. Milios: “Diagnosis using the formal theory of a signal-processing system”, IEEE Transactions on Systems, Man and Cybernetics, special issue on Diagnostic Reasoning, Vol. 17, No. 3, May/June 1987, pp. 369-379.

7b. Manuscripts Submitted to Refereed Journals and Conferences

1. Yongzheng Zhang, Evangelos Milios, Nur Zincir-Heywood: “A Framework for Summarization of Multi-topic Web Sites”.
2. Hongyu Liu, Evangelos Milios: “Probabilistic Models for Focused Web Crawling”.

7c. Fully refereed Conference articles. (last 6 years)

1. Marek Lipczak, Evangelos Milios: “The impact of resource title on tags in collaborative tagging systems”, 21st ACM Conference on Hypertext and Hypermedia, Hypertext 2010, Toronto, Canada, June 13-16, 2010 (long paper).
2. Adetokunbo Makanju, A. Nur Zincir Heywood, Evangelos E. Milios. Fast Entropy Based Alert Detection in Super Computer Logs. In Proceedings of the 2010 DSN Workshop on Proactive Failure Avoidance, Recovery and Maintenance. PFARM 2010, Chicago, USA, June 28, 2010.
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106. J. Cooperstock, E. Milios: "Adaptive Neural Networks for Vision-Guided Position Control of a Robot Arm", IEEE International Symposium on Intelligent Control, August 11-13, 1992, Glasgow, Scotland, U.K.
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109. E. Prassler, E. Milios: "Parallel Distributed Robot Navigation in the Presence of Obstacles", *Proc. of the Second IEEE Symposium on Parallel and Distributed Processing*, Dallas, Texas, Dec. 1990, pp. 475 - 478.
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112. D. Metaxas, E. Milios: "Color Image Reconstruction from Nonuniform Samples using a Thin Plate Model", *Eurographics 1990*, Montreux, Switzerland, September 3-7, 1990, pp. 75-86.
113. E. Milios: "Orientation and Spatial Occupancy Representations in Shape Analysis", *Proceedings of the NATO Advanced Study Institute on Active Perception and Robot Vision*, July 17-28, 1989, Maratea, Italy, A. Sood and Harry Wechsler (editors), pp. 577-597.

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7d. Conference articles accepted based on summary. (last 6 years)

1. Vlado Keselj, Evangelos Milios, Andrew Tuttle, Singer Wang, Roger Zhang: "DalTREC 2005 Spam Track: Spam Filtering using N-gram-based Techniques", Text REtrieval Conference - TREC, Spam track, 2005, National Institute of Standards & Technology, Maryland, November 2005.
2. Y. Shan, E. Milios, A. Roger, C. Blouin, E. Susko: "Automatic Recognition of Regions of Intrinsically Poor Multiple Alignment for Phylogenetic Analysis Using Machine Learning", IEEE Computer Society Bioinformatics Conference, Stanford University, August 11-14, 2003.
3. I. Rekleitis, G. Dudek, E. Milios: "Multi-Robot exploration of indoor environments", Second International Workshop on Multi-Robot Systems, March 17-19, 2003, Naval Research Laboratory, Washington DC.
4. X. Deng, E. Milios, A. Mirzaian: "Many Looks before a Leap", Working Notes of the Workshop on On-Line Search (14th National Conference on Artificial Intelligence), pp. 15-21, Providence, Rhode Island, July 28, 1997.
5. Feng Lu, E. Milios, and S. Stergiopoulos: "A new towed array shape estimation scheme for real time sonar systems", Acoustical Society of America Conference, Hawaii, December 2-6, 1996.
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8. J. Tsotsos, E. Milios: "Selective Attention within a Visual Processing Pyramid", 1995 IEEE Workshop on Nonlinear Signal and Image Processing, June 20-22, 1995, Neos Marmaras, Halkidiki, Greece, editor: I. Pitas, pp. 682-685.
9. E. Milios, D. Wilkes, M. Jenkin, G. Dudek: "Multirobot landmark-based self-location and exploration", 3rd Int. Symp. on Intelligent Robotic Systems (SIRS), Pisa, Italy, 10-14 July 1995, pp. 49-56.
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11. Dudek, Gregory, Michael Jenkin, Evangelos Milios, David Wilkes, "Robust Positioning with a Multi-Agent Robotic System", Proceedings of the International Joint Conference of Artificial Intelligence (IJCAI-93) Workshop on Dynamically Interacting Robots, Chambery, France, August 1993. pp. 118-123.
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14. J. Cooperstock, E. Miliotis: "Self-supervised Learning for Docking and Reaching", International Conference on Intelligent Autonomous Systems, IAS-3, Feb 15-19, 1993, Carnegie-Mellon University, Pittsburgh, PA, pp. 582-591.
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 23. E. Miliotis: "Proper Subcurve Matching Using an Extended Circular Image Representation", *6th Scandinavian Conference on Image Analysis*, Oulu, Finland, June 19-22, 1989, pp. 522-529.
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 28. R. Lee, E. Miliotis, R. Greiner, J. Rossiter: "Signal Abstractions in the Machine Analysis of Radar data for Ice Profiling", *Proceedings of the 1988 IEEE Conf. on Acoustics, Speech and Signal Processing*, New York, April 1988, pp. 1224-1227.

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7e. Books

1. Bill Aiello, Andrei Broder, Jeannette Janssen, Evangelos Milios: "Algorithms and Models for the Web-Graph: Fourth International Workshop, WAW 2006, Banff, Canada, Nov. 30 - Dec. 1, 2006, Proceedings", Lecture Notes in Computer Science, LNCS-4936, Springer Verlag, 2008.

7f. Technical Reports

1. Adetokunbo Makanju, A. Nur Zincir-Heywood, Evangelos E. Milios: "Message Type Extraction Based Alert Detection in System Logs", Technical report CS-2009-08, Dalhousie University, Faculty of Computer Science, Nov. 2009
2. Adetokunbo Makanju, A. Nur Zincir-Heywood, Evangelos E. Milios: "A Lightweight Algorithm for Message Type Extraction in Event Logs", Technical report CS-2009-07, Dalhousie University, Faculty of Computer Science, Nov. 2009
3. Yongzheng Zhang, Nur Zincir-Heywood and Evangelos Milios: "A Framework for Summarization of Multi-topic Web Sites", Technical Report CS-2008-02, Dalhousie University, Faculty of Computer Science, March, 2008
4. Marek Lipczak and Evangelos Milios: "Natural Search Queries - a machine learning approach to a search interface for consumer-oriented databases", Technical Report CS-2007-01, Dalhousie University, Faculty of Computer Science, January 2007

5. Bill Kapralos, Michael Jenkin and Evangelos Milios: “The Sonel Mapping Acoustical Modeling Method”, Technical Report CSE-2006-10, York University, September, 2006
6. Mahdi Shafiei, Singer Wang, Roger Zhang, Evangelos Milios, Bin Tang, Jane Tougas and Ray Spiteri: “A Systematic Study of Document Representation and Dimension Reduction for Text Clustering”, Technical Report CS-2006-05, Dalhousie University, July 11th, 2006
7. Yingbo Miao, Vlado Keselj and Evangelos Milios: “Document clustering using character N-grams: a comparative evaluation with term-based and word-based clustering”, Technical Report CS-2005-23, Dalhousie University, Faculty of Computer Science, September 2005.
8. Hongyu Liu, Jeannette Janssen and Evangelos Milios: “Using a Hidden Markov Model to Learn User Browsing Patterns for Focused Web Crawling”, Technical Report CS-2005-05, Dalhousie University
9. Yongzheng Zhang, Evangelos Milios, and Nur Zincir-Heywood: “A Comparison of Keyword- and Keyterm-based Methods for Automatic Web Site Summarization”, Technical Report CS-2004-11, Dalhousie University, October 2, 2004.
10. Hui Liu and Evangelos Milios: “Acoustic Positioning Using Multiple Microphone Arrays”, Technical Report CS-2004-01, Dalhousie University, January 23, 2004.
11. Andrew Tuttle, Evangelos Milios, and Nauzer Kalyaniwalla: “An Evaluation of Machine Learning Techniques for Enterprise Spam Filters”, Technical Report CS-2004-03, Dalhousie University, March 12, 2004.
12. C. Georgiades, A. Hogue, H. Liu, A. Ripsman, R. Sim, L-A. Torres, P. Zhang, C. Prahacs, M. Buehler, G. Dudek, M. Jenkin, E. Milios: “AQUA: an aquatic walking robot”, Technical Report CS-2003-08, Dalhousie University, November 10, 2003.
13. B. Kapralos, M. Jenkin, E. Milios: “Auditory Perception and Spatial (3D) Auditory Systems”, Technical Report, CS-2003-07, Department of Computer Science, York University, July 20, 2003.
14. X. Song, E. Milios, M. Heywood, and B. Rusak: “A Constraint-Based Approach for Signal Acquisition Control in Magnetic Resonance Imaging and Spectroscopy (MRI/MRS)”, Technical Report CS-2003-02, Dalhousie University, March 5, 2003.
15. Zhongmin Shi, Evangelos Milios, and Nur Zincir-Heywood: “Post-supervised Template Induction for Information Extraction from Lists and Tables in Dynamic Web Sources”, Technical Report CS-2002-09, Dalhousie University, November 20, 2002.
16. Y. Zhang, N. Zincir-Heywood, E. Milios: “World Wide Web Site Summarization”, Technical Report CS-2002-08, Dalhousie University, October 10, 2002.
17. Yuan An, Jeannette Janssen, and Evangelos Milios: “Characterizing and Mining the Citation Graph of the Computer Science Literature”, CASCON 2001, Nov. 5-7, Toronto. Also Technical Report CS-2001-02 Dalhousie University September 26, 2001.
18. Wangzhong Lu, Jeannette Janssen, Evangelos Milios, and Nathalie Japkowicz: “Node Similarity in Networked Information Spaces”, Technical Report CS-2001-03 Dalhousie University September 26, 2001.
19. Greg L. Reid and Evangelos Milios: “Active Stereo Sound Localization”, CS-1999-09, Department of Computer Science, York University, 1999.
20. Zusheng Rao, Euripides Petrakis and Evangelos Milios: “Retrieval of Deformed and Occluded Shapes using Dynamic Programming”, CS-1999-06, Department of Computer Science, York University, 1999.
21. Yiannis Rekleitis, Greg Dudek and Evangelos Milios: “Multi-Robot Collaboration for Robust Exploration”, CS-1999-10, Department of Computer Science, York University, 1999.
22. E. Milios, E. Petrakis: “Efficient Shape Matching and Retrieval at Multiple Scales”, CS-1998-11, Department of Computer Science, York University, 1998.
23. X. Deng, E. Milios, and A. Mirzaian: “Robot Map Verification of a Graph World”, CS-98-02, Department of Computer Science, York University, 1998.
24. F. Lu, E. Milios: “Robot pose estimation in unknown environments by matching 2D laser scans”,

- RBCV-TR-94-46. December 1994, University of Toronto, Research in Biological and Computational Vision.
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 27. G. Dudek, M. Jenkin, E. Miliotis, D. Wilkes: "Robotic Exploration as Graph Construction", Technical Report RBCV-TR-88-23, University of Toronto, Research in Biological and Computational Vision, 1988.
 28. W. Dove, C. Myers and E. Miliotis: "An Object-Oriented Signal Processing Environment: The Knowledge-Based Signal Processing Package", TR-502, October 1984, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Mass.

7g. Book Contributions

1. I. Rekleitis, G. Dudek, E. Miliotis: "Cooperative Localization During Exploration", SOFTWARE AND HARDWARE ENGINEERING FOR THE 21ST CENTURY, edited by Nikos E. Mastorakis, World Scientific and Engineering Society Press and World Scientific Publishing Company, 1999, pp. 223-2291.
2. Gregory Dudek, Michael Jenkin, and Evangelos Miliotis: "A Taxonomy of Multirobot Systems", ROBOT TEAMS: FROM DIVERSITY TO POLYMORPHISM, edited by Tucker Balch and Lynne E. Parker, published by A K Peters Ltd; ISBN: 1568811551; 1st edition (April 2002).
3. E. Miliotis, H. Nawab: "The Signal Abstraction Concept for Signal Interpretation", Chapter 8, SYMBOLIC AND KNOWLEDGE-BASED SIGNAL PROCESSING, edited by A. Oppenheim and H. Nawab, published by Prentice Hall, 1992, pp. 286-302.
4. E. Dorken, E. Miliotis, H. Nawab: "Knowledge-Based Signal Processing Applications", Chapter 9, SYMBOLIC AND KNOWLEDGE-BASED SIGNAL PROCESSING, edited by A. Oppenheim and H. Nawab, published by Prentice Hall, 1992, pp. 303-330.

7h. Other Publications

1. Marek Lipczak, Ralitsa Angelova, Pawel Pralat, Evangelos Miliotis: "Flow-based Clustering for Community Detection in Social Networks", APICS Mathematics, Statistics and Computer Science Conference, Dalhousie University, October 23-24, 2009 (poster presentation)
2. Adetokunbo Makanju, Nur Zincir-Heywood, Evangelos Miliotis: "A Novel Message Type Extraction Algorithm", APICS Mathematics, Statistics and Computer Science Conference, Dalhousie University, October 23-24, 2009 (poster presentation)
3. Hathai Tanta-ngai, Evangelos Miliotis, Vlado Keselj: "Building a self-organizing peer-to-peer network in Shrack - a P2P system for scientific document tracking", APICS Mathematics, Statistics and Computer Science Conference, Dalhousie University, October 23-24, 2009 (poster presentation)
4. Yeming Hu, Evangelos Miliotis, James Blustein: "Document Clustering With Class-Based Feature Selection", APICS Mathematics, Statistics and Computer Science Conference, Dalhousie University, October 23-24, 2009 (poster presentation)
5. Ozge Yeloglu, Evangelos Miliotis, Nur Zincir-Heywood: "Multi-Document Summarization of Scientific Corpora", APICS Mathematics, Statistics and Computer Science Conference, Dalhousie University, October 23-24, 2009 (poster presentation)
6. Sathi Marath, Michael Shepherd, Evangelos Miliotis: "Large-Scale Web Page Classification", APICS Mathematics, Statistics and Computer Science Conference, Dalhousie University, October 23-24, 2009 (poster presentation)

7. E. Milios: Book review of "Geert Lovink: "Dark Fiber: Tracking Critical Internet Culture", Social Science Computer Review Volume 22, No.1, Spring, 2004
8. E. Tastsoglou, E. Milios: Book review of "Network, Netplay: Virtual Groups on the Internet. F. Sudweeks, M. McLaughlin, S. Rafaeli(editors), 1998", Social Science Computer Review, Spring 2000, Volume 18, No. 1, pp. 106-112.
9. E. Milios: "Artificial Intelligence Research within ITRC", The Looking Glass: the Newsletter of the Information Technology Research Centre, March/April 1989, Vol. 2, No. 1.
10. R. Eagleson and E. Milios: "1987 Workshop on Spatial Reasoning and Multi-sensor Fusion (Conference Report)", Canadian Artificial Intelligence, January 1988, No. 14, pp. 29-32.
11. S. Becker, R. Greiner, J-F. Lamy, E. Milios and B. Selman: "AAAI-87: The Sixth National Conference on Artificial Intelligence, Seattle, Washington (Conference Report)", Canadian Artificial Intelligence, October 1987, No. 13, pp. 17-21.
12. E. Milios: "Research on Knowledge-Based Systems at the University of Toronto (Research Summary)", Canadian Artificial Intelligence, July 1987, No. 12, pp. 22-23.
13. E. Milios: "Book review: Readings in Artificial Intelligence and Software Engineering, by C. Rich and R. Waters", Canadian Artificial Intelligence, January 1987, No. 10, p. 33.
14. E. Milios: "Mediterranean Electrotechnical Conference 1983 (Conference Report)", Signal Processing Conference Reporter, July 1983.

8. Lectures

1. "Automatic Term Extraction and Document Similarity in special text corpora"
"Post-supervised Template Induction for Information Extraction from Lists and Tables in Web Sources,"
 - Department of Computer Engineering and Informatics, Technical University of Crete, Chania, Crete, Greece, July 8-10, 2002
2. "Networked Information Spaces",
 - Department of Computer Science (Informatics), Technical University of Aachen, Germany, May 18, 2001.
 - Department of Computer Engineering, Ege University, Izmir, Turkey, May 28, 2001.
 - Department of Informatics, Athens University of Economics and Business, June 5, 2001.
 - Department of Electronic and Computer Engineering, Technical University of Crete, Chania, Greece, June 7, 2001.
 - Department of Computer Science, University of Crete, Heraklio, Greece, June 8, 2001.
 - Institute of Language and Speech Processing, Athens, Greece, June 22, 2001.
 - Department of Electrical Engineering and Computer Science, National Technical University of Athens, Greece, June 28, 2001.
3. "A text similarity measure based on a lexical ontology",
School of Information Technology and Engineering, University of Ottawa, November 17, 2001.
4. "Shape retrieval using dynamic programming",
 - Department of Computer Engineering and Informatics, Technical University of Crete, Chania, Crete, Greece, October 22, 1999. - Department of Informatics, University of Athens, Greece, October 26 1999.
5. "Mobile robot self-location and exploration", FAW, University of Ulm, June 29, 1995.
6. "Where am I? Sensor-based self-location for a mobile robot", given in Greece at
 - University of Patras, Department of Computer Science, June 19, 1994
 - Technical University of Athens, Department of Computer Science, June 24 and 26, 1994.
 - FAW, University of Ulm, July 21, 1994.
 - Department of Computer Science, Dalhousie University, Halifax, Nova Scotia, April 28, 1994.
 - School of Computer Science, Technical University of Nova Scotia, November 1993.
7. "Computer Vision and Robotics Research at York University", given in Japan at
 - NTT (Nippon Telegraph and Telephone Corporation), Artificial Intelligence Group, Communication Science Laboratory, Kyoto, July 19, 1993
 - Toshiba Research Laboratory (Computer Vision), Kansai area, Kobe, July 20, 1993
 - Osaka University, Department of Systems Engineering, July 21, 1993
 - Toshiba Energy and Mechanical Research Laboratory, Kawasaki, July 22, 1993
 - Electrotechnical Laboratory, Tsukuba, July 23, 1993
 - Mechanical Engineering Laboratory, MITI, Tsukuba, July 23, 1993
 - NTT Human Interfaces Laboratory, Kanagawa, July 26, 1993.
8. "Active Sensing for Mobile Robotics", Autonomous Robotics Laboratory, Department of Computer Sciences, IBM T.J. Watson Research Center, Yorktown Heights, N.Y., July 6, 1992.
9. "Robot exploration, self-location and map validation in a graph-like world", Siemens Corporate Research, Princeton, N.J., July 2, 1992.
10. "A self-supervised Neural Network Controlled Robot that Learns to Reach", Siemens Corporate Research, Princeton, New Jersey, July 2, 1992.
11. "Colour Object Tracking", Annual PRECARN/IRIS conference, June 7-12, 1992, Montreal.
12. "A self-supervised vision-guided robot arm that learns to reach", Annual PRECARN/IRIS conference, June 7-12, 1992, Montreal.
13. "A self-supervised neural network-controlled robot that learns to reach", given at

- the Technical University of Crete, Hania, Greece, May 7, 1992.
 - the Research Institute for applied Knowledge Processing (Forschungsinstitut fuer anwendungsorientierte Wissensverarbeitung), Ulm, Germany, May 19, 1992.
 - the Bavarian Research Centre for Knowledge-Based Systems (Bayerisches Forschungszentrum fuer Wissensbasierte Systeme), Erlangen-Tennoeloe, Germany, May 21, 1992.
14. "Landmark-based mobile robotics using a combined vision and laser range sensor", Laboratory of Automation, Technical University of Crete, May 7, 1992.
 15. "Research on Object Recognition and Robot Navigation at the University of Toronto", Institute for System Dynamics and Flight Mechanics, Universitat der Bundeswehr, Munich, F.R. Germany, Oct. 29, 1990. Also given at the Department of Computer Science, University of Crete, Heraklio, on Nov. 12, 1990, and the Department of Electronic and Computer Engineering, Technical University of Crete, Chania, on Nov. 9, 1990.
 16. "Vision-based Robotic Navigation and Exploration", Annual Meeting of the Artificial Intelligence and Robotics Program of the Canadian Institute for Advanced Research, Saint-Sauveur, Quebec, January 17-19, 1990.
 17. "Orientation-Dependent Shape Representations", Centre for Automation Research, University of Maryland, College Park, Maryland, May 10, 1989.
 18. "Extended Circular Images: An orientation-encoding representation for shape matching", GRASP Laboratory, Department of Computer and Information Science, University of Pennsylvania, Philadelphia, Pennsylvania, May 11, 1989.
 19. "Robotic Exploration as Graph Construction", SRI International, April 3, 1989.
 20. "Signal Processing and Interpretation Using Multilevel Signal Abstractions", Harvard University, Division of Applied Sciences, October 17, 1986.
 21. "Multilevel Signal Abstractions in Acoustic Signal Interpretation", SPAR Aerospace Ltd, Defence Systems Division, on July 16, 1986.

D. TEACHING AND THESIS SUPERVISION

9. Teaching

1998-now, Faculty of Computer Science, Dalhousie University

Graduate courses

HINF 6220.03 Networks and the Web for Health Informatics

The purpose of this course is to introduce two key technologies that play a critical role in the management of health care, computer networks and the World Wide Web, and how they are used to perform key functions in health care, health record management and access to medical knowledge. Specific objectives of the course are to give students an appreciation of some of the details of related computer technology, including web programming, databases, medical image management, and computer security. The course will include 3 hours of lecture and 3 hours of tutorials per week, which will complement each other, in that lectures will focus on conceptual issues, while tutorials will focus on technology details. Students are expected to participate actively in the lectures and tutorials and contribute their own work experience to enrich the course content with case studies.

CSCI 6505.03 Machine Learning

A graduate level course on fundamental techniques of machine learning, with emphasis on applications to Natural Language Processing, and Information Retrieval and Extraction for the World Wide Web.

ECMM 6016.03 Networking for Electronic Commerce

A stream elective for the newly established Master's for Electronic Commerce program, aiming to introduce

the basics of computer networks with a focus on electronic commerce. The difficulty with this course was the diversity of the student body (equally split between graduate students in computer science and MBA students), plus the lack of guidelines of what constitutes a reasonable body of graduate level material for the subject. The topics covered in the course were the foundations of computer networks (with focus on the higher layers, TCP/IP protocols and internetworks), computer security, virtual private networks and firewalls, and software agents for electronic commerce. The format of the course was lecturing for the first third, and seminar for the last two thirds of the course, where current literature was reviewed and presented by students and critically discussed in class. The course project was the design and implementation of an agent-based electronic marketplace.

CSCI 6504.03 Advanced Topics in Software Agents

A new graduate seminar course surveying current research literature in software agents. Topics covered included: internet search engines, collaborative information filtering, link-based approaches (automatic citation indexing, inferring web communities from link topology), information integration and wrapper generation, case-based reasoning, theoretical foundations of software agents (agent communication languages, knowledge representation), multiagent negotiation, computational market models, mobile agents. Evaluation consisted of short weekly reports on the readings, presentations, and a course project (a design or implementation project).

Undergraduate Courses

CSCI 3171.03 Network Computing

This core course gives students a foundation in computer networks. It presents a top-down view of the layered architectural elements of communication systems, focusing on the Internet and TCP/IP. Topics include client/server systems, packet switching, protocol stacks, queuing theory, application protocols, socket programming, remote service calls, reliable transport, UDP, TCP, and security.

CSCI 4150.03 Introduction to Artificial Intelligence

Introductory Artificial Intelligence course at the 4th year level (more sophisticated mathematically than the course it replaced in the program, CSCI 3150). Emphasis on modern probabilistic techniques, such as the representation of uncertainty, Hidden Markov Models and Bayesian Networks, Constraint Satisfaction, statistical and reinforcement learning, natural language processing, machine perception and robotics.

CSCI 2140.03 Data and Knowledge Fundamentals, part II

A core undergraduate course introducing data and knowledge bases. I taught part II, Knowledge Fundamentals, covering exhaustive search, heuristic search, and automated inference in propositional and predicate (first-order) logic.

CSCI 3136.03 Programming Languages

A third year course on the comparative study of advanced programming language features. Topics include statement types, data types, variable binding and parameter passing mechanisms. Formal methods for syntactic and semantic description of programming languages are examined, and compiler design is introduced.

CSCI 4171.03 Computer Communication Networks

A fourth year course introducing computer communication networks. The challenge in this course is to provide sufficient foundational and mathematical content while giving students an appreciation for the state of the art in this rapidly evolving field. The student body is extremely diverse, because a percentage of the class already has work experience (through coop) with the practice of computer networks. Another issue is that the material is not yet standardised, and therefore choosing a suitable textbook is difficult. As instructor, I had to supplement the textbook chosen with additional material (mostly of foundational nature), and reference to web resources.

CSCI 3150.03 Artificial Intelligence

A third year course introducing the field of Artificial Intelligence. The challenge in this course is to offer

a balanced view of the field, which includes robotics, computer vision, knowledge representation, and a variety of fairly advanced underlying mathematics (feedback control, signal processing, optimization theory, first order logic, probabilistic networks). The teaching objective is to convey to the students the basic intuitions without getting into mathematics that is beyond their background. The course evaluation consisted of assignments, two term exams and a course project. The last day of class was devoted to project presentations and demonstrations.

1991-1998, Department of Computer Science, York University

4th year courses, cross-listed as graduate

COSC 4422.03 Computer Vision (crosslisted as a graduate course)

A senior/first-year graduate course on Computer Vision. Topics covered include: The physics and geometry of image formation, camera calibration, depth from stereo, depth from focus, depth from motion. Edge detection and region segmentation. Mathematical morphology. Object recognition as search, object recognition using the Hough transform, object recognition using eigenspace representations. Assignments are a mix of theoretical problems and programming using a signal/image processing software package.

COSC 4331.03 Introduction to Computer Graphics (crosslisted as a graduate course)

A senior/first-year graduate course on the theory and practice of computer graphics. Assignments include the implementation of elementary 2D and 3D graphics packages, and the use of existing 3D graphics packages, such as PHIGS and OpenGL.

COSC 4401.03 Topics in Artificial Intelligence: Neural Networks (crosslisted as a graduate course)

A senior/first-year graduate course designed to cover two branches of evolutionary computation, learning in neural networks and optimization with genetic algorithms. The course started with a brief review of statistical pattern recognition, which formed the foundation for a more disciplined treatment of neural network learning. The emphasis of the course was on neural network learning algorithms that have gained practical acceptance, especially in the areas of robotics control and computer vision, with less time devoted to those that are of more theoretical significance. Before covering genetic algorithms, a thorough introduction to the topic of random number generation was offered. This proved to be a good idea, as it gave students a practical grasp of basic probability theory. In terms of laboratory experience, the students used a neural network simulator for the Macintosh, to enhance their basic understanding of the concepts, and Xerion, an advanced neural network construction tool for UNIX, which offers a choice of advanced learning regimes for addressing more realistic problems. A genetic algorithm implementation in Turing for numerical optimization problems was also used.

COSC 4422.03. Signals and Systems (crosslisted as a graduate course)

This was a new senior/first-year graduate course. The objective of the course is to complement the computer vision, graphics and robotics courses in our department, by aiming at an understanding of the basic concepts in discrete signals, filtering, and linear system theory. A basic problem in teaching this course is the nonuniform mathematical background of the students, as well as the fact that it is addressed to both undergraduate and graduate students. The course consisted of 3 assignments, 3 tests, and one course project. Graduate students were required to solve additional problems as part of their assignments, and to carry out the project by themselves, whereas the undergraduates worked in groups. The project involved the design of programs operating on real speech or image data, using an existing library of signal and image processing programs, available along with a textbook. This course can be taught in several different ways, depending on the mix of rigorous mathematics, physical intuition, and computer programming. My approach has been to cultivate physical intuition together with some basic mathematical skills, so that students can understand and use existing software packages. Programming assignments are coordinated with theoretical assignments, so that the former enhance the understanding required by the latter. The course has 17 students and no other assistants.

Undergraduate courses (1st - 3rd year and not cross-listed 4th year)

COSC 2021.03 Computer Organization

A second year course introducing computer organization. Topics covered include assembly language for a RISC processor, elementary digital logic (gates, flip-flops and programmable gate arrays), representation of numbers and the arithmetic and logic unit, processor design (memory and control). The challenge of this course is to bridge the gap between high level languages and digital hardware. Assembly language is introduced to a sufficient degree to allow students an understanding of the issues in processor design.

COSC 1020.03. Introduction to Computer Science I

Course director. The course had three sections and a total enrollment of about 250. I coordinated the three sections, and the work of 6 tutors and 4 markers (a total of 7 different individuals). The course has 3 weeks of supervised laboratory sessions, 5 assignments, 2 tests and a final exam.

Innovations introduced to the course:

- Coverage of subprograms (procedures and functions) before control structures (and the use of a textbook following this philosophy). In this way students are introduced very early to the concept of modular design as a tool for managing program complexity.
- Introduction of graphics in the laboratory part of the course (3 weeks). Lab 3 was redesigned to include turtle graphics, allowing students to construct sophisticated graphical patterns with only 3 weeks of Pascal instruction.
- Tutorials run by graduate students. I undertook the task of managing the tutors, providing them with guidelines as to how to run the tutorials, and monitoring their progress throughout the term through regular staff meetings. Following the suggestion of Prof. Pat Rogers, I prepared and offered a two-hour orientation session for tutors as part of the orientation week activities, dealing specifically with teaching computer programming, and demonstrated three different lecturing styles (lecturing, interactive, and small-group work) in that context.

This course was initially taught in Pascal, then in Object-oriented Turing. In the summer of 1998 I completely redesigned the course in Java and taught it for the first time in the Department of Computer Science at York University.

COSC 1030.03. Introduction to Computer Science II

The course covers data abstraction and introductory data structures. The language used is currently Object-oriented Turing.

COSC/SCS 4001.06. Space and Communication Sciences Workshop

Year-long project course equivalent to a Bachelor's thesis. As course director I proposed and implemented (through milestones introduced to spread the work evenly throughout the academic year) the structure of this course, in which the student works on a specific design-oriented project under the supervision of a faculty member. Achievement of each milestone requires the submission of a progress report, and a short presentation by the student to the whole class. Grades are assigned by Prof. Prince (Chair, Physics Department) and myself, in consultation with project supervisors.

COSC 4341.03. Interactive Systems Design

The course covered the basics of Interactive Systems Design, with equal emphasis on cognitive engineering (predictive models of user behaviour and performance), on interaction styles and techniques, and on software for Interactive systems (X windows, Motif, PC Windows, Hypercard). The course projects involved the design and implementation of an interactive system useful in a practical setting.

COSC 2021.03. Computer Organization

An introductory course in modern computer architecture. Course includes an introduction to performance evaluation, machine instructions, addressing modes, computer arithmetic, processor datapaths and clocking, assembly level programming and microprogramming, memory hierarchy, pipelining (summer of 1997).

Robot sensing, planning and control

This course was designed with funding by a York Senate Teaching-Learning grant. It has not been offered yet. The design involved a selection of topics from the broad area of robotics suitable for a "hands-on" senior-level robot building course covering sensing, planning and control. Students are assumed to have programming skills in C and assembly language, and have taken courses in analog electronics and digital systems design. Control boards based on the MC68HC11 microprocessor with serial communication to a UNIX workstation are used. LEGO Dacta parts are used for building robotic mechanisms. The theoretical part of the course covers the physics of sensors and motors, feedback control theory, and mechanism design.

1988 - 1991, Department of Computer Science, University of Toronto

CSC 484. Applied Artificial Intelligence

The course was designed and taught jointly by Dr. R. Greiner and myself four times (spring term of 1988, 1989, 1990 and 1991). Course evaluation consisted of 4 assignments (10%, 15%, 10%, and 15% of the total mark respectively), and two tests (25% of the total mark each). I taught half of this course (Search, Production Systems, Computer Vision, Robotics), and made up half of the assignment and test questions. The course was also offered as an intensive 3-day course for industry, sponsored by the ITRC (Information Technology Research Centre), a Centre of Excellence funded by the Government of Ontario.

10. Short courses and tutorials

- *Mobile Robot Navigation*, Tutorial, Vision Interface, Calgary, June 3, 1991, 8:30 - 12:00.
- *Introduction to Applied Artificial Intelligence*, a week-long intensive short course for industry and government, including hands-on sessions, sponsored by the Information Technology Research Centre, University of Toronto, July 31 - August 4, 1989 (taught jointly with R. Greiner).

11. Theses Supervised or Read

Post-doctoral researchers

1. J.P. Grossman, “Recursive Node Similarity in Networked Information Spaces”, 2003, co-supervised with J. Janssen. Currently working in US industry.
2. Pawel Pralat, “Clustering in Networked Information Spaces”, 2006-2007, co-supervised with J. Janssen. Currently assistant professor in West Virginia University.

Ph.D. Theses supervised

1. Hathai Tanta-ngai, “SHRACK: A Self-Organizing Peer-To-Peer System For Document Sharing And Tracking”, May 2010. (co-supervised with Vlado Keselj)
2. Xiaomeng Wan, “Link-Based Event Detection In Dynamic Communication Networks”, (co-supervised with Nauzer Kalyaniwalla), May 2010. Currently working for startup company in Calgary.
3. Jane Mason, “An N-Gram Based Approach To The Automatic Classification Of Web Pages By Genre”, December 2009, (co-supervised with Michael Shepherd)
4. Mahdi Shafiei, “Leveraging Structural Information For Statistical Topic Models Of Text”, August 2009. Currently postdoctoral research associate at Acadia University.
5. Yongzheng Zhang, “A Framework For Summarization Of Multi-Topic Web Sites”, August 2007, (co-supervised with Nur Zincir-Heywood), currently working for ebay.com in California.
6. Hongyu Liu, “Probabilistic Models for Focused Web Crawling”, August 2007, (co-supervised with Jeannette Janssen).
7. Pifu Zhang, “Globally Consistent 3D Simultaneous Localization And Mapping With Multi-Sensor Fusion”, August 2007, (co-supervised with Jason Gu).
8. B. Kapralos, “The Sonel Mapping Acoustical Modeling Method” (Department of Computer Science, York University, co-supervised with M. Jenkin), completed in June 2006. Currently assistant professor at the Ontario University Institute of Technology.
9. Yiannis Rekleitis, “Cooperative Localization and Multirobot Exploration”, Department of Computer Science, McGill University, December 2002. (co-supervised with Prof. Greg Dudek). Currently Research Scientist at McGill University.
10. Feng Lu, “Shape Registration using Optimization for Mobile Robot Navigation”, Department of Computer Science, University of Toronto, September 1995. Currently working at Microsoft, Seattle, WA.
11. Erwin Prassler, “Distributed representations for map acquisition, representation and navigation”, Department of Computer Science, and Research Institute for Applied Knowledge Processing, University of Ulm, Germany, March 1996. Currently Professor at the University of Applied Sciences (Fachhochschule), Bonn-Rhein-Sieg.

Ph.D. Theses, in progress

1. Hamid Nourashraf, “Interactive document clustering using evolutionary computation”, started in Jan. 2010 (co-supervised with Dirk Arnold).

2. Adetokunbo Makanju, “Clustering of events in system logs”, started in Jan. 2008 (co-supervised with Nur Zincir-Heywood).
3. Marek Lipczak, “Term co-occurrence networks for tag recommendation and document corpus summarization”, started in Sep. 2007.
4. Yeming Hu, “Search and Browsing in Personal digital libraries”, supervision started in Jan. 2008, in the program since Sep. 2006 (co-supervised with James Blustein).
5. Ozge Yeloglu, “Expertise modelling based on expert authored document corpora”, started in Sep. 2007 (co-supervised with Nur Zincir-Heywood).
6. John Healy, “Characterization of graphs using degree cores”, started in Sep. 2005 (co-supervised with Jeannette Janssen and Bill Aiello).
7. Ashley George, “Dynamic Knowledge Bases for Administration of Networked Environments”, started in Sep. 2006 (co-supervised with Nur Zincir-Heywood).

M.Sc. Theses supervised

1. Sisira De Silva: “An Ontology to Model Time in Clinical Practice Guidelines”, June 2008.
2. Zheyuan Yu: “High Performance Postal Address Extraction from Web Pages”, co-supervised with Vlado Keselj, April 2007.
3. Gang Wei: “Named Entity Recognition And An Application To Document Clustering”, October 2004.
4. Gao, Weizheng: “A Hierarchical Document Clustering Algorithm”, August 2004.
5. Yingbo Miao: “Document representations for clustering”, August 2004, (co-supervised with Vlado Keselj).
6. Andrew Tuttle: “Evaluation of Machine Learning Algorithms for Spam Detection”, May 2004.
7. Xiaomeng Wan: “Link-Based Search For Similar Pages On The Web”, May 2004 (co-supervised with Jeannette Janssen).
8. Lingyan Zhang: “Parallel Automatic Term Extraction from Large Web Corpora”, May 2004, (co-supervised with A. Rau-Chaplin)
9. Yunfeng Shan: “Automating Recognition Of Regions Of Intrinsically Poor Multiple Alignment Using Machine Learning”, Jul. 2003 (co-supervised with Andrew Roger, Christian Blouin, Edward Susko).
10. Biao Chen: “Clustering the Citation Graph”, Sep. 2003 (co-supervised with J. Janssen).
11. Adam Nickerson: “Connecting Link Structure and Content on the Web for Effective Focused Crawling”, Sep. 2003 (co-supervised with J. Janssen).
12. Hui Liu: “Acoustic Positioning Using Multiple Microphone Arrays”, July 2003.
13. Xiaowei Song: “A Constraint-Based Approach for Signal Acquisition Control in Magnetic Resonance Imaging and Spectroscopy (MRI/MRS)”, August 2002 (co-supervised with Malcolm Heywood, Ben Rusak). Currently working at the Queen Elizabeth II Health Sciences Centre, Geriatric Medicine Research Unit.
14. Li Dong: “Automatic term extraction and document similarity in special text corpora”, May 2002. Faculty of Computer Science, Dalhousie University. Currently working for CARIS, in Fredericton, NB, <http://www.caris.com>.
15. Jinghu Liu: “Resource Bounded Online Search for Dense Neighbourhoods on the Web”, May 2002. Faculty of Computer Science, Dalhousie University (co-supervised with J. Janssen)
16. Yongzheng Zhang: “World Wide Web Site Summarization”, May 2002. Faculty of Computer Science, Dalhousie University. Currently pursuing a Ph.D. in the Faculty of Computer Science, Dalhousie University, (co-supervised with Nur Zincir-Heywood).
17. Zhongmin Shi: “Post-supervised Template Induction for Information Extraction from Lists and Tables in Web Sources”, May 2002. Faculty of Computer Science, Dalhousie University. Currently pursuing a Ph.D. in Computer Science at Simon Fraser University (co-supervised with Nur Zincir-

- Heywood).
18. Wanhong Zheng: "Categorization of Electronic Medical News", December 2001 (co-supervised with C. Watters).
 19. Wangzhong Lu: "Node Similarity in Networked Information Spaces", July 2001. Faculty of Computer Science, Dalhousie University (co-supervised with J. Janssen).
 20. Yuan An: "Characterizing and mining the citation graph of the computer science literature", July 2001, Faculty of Computer Science, Dalhousie University (co-supervised with J. Janssen). Currently pursuing a PhD at the University of Toronto.
 21. Bill Kapralos, "Eyes 'n Ears: A System for Attentive Teleconferencing", June 2001, Department of Computer Science, York University (co-supervised with M. Jenkin). Currently pursuing a PhD at York University.
 22. Greg Reid: "Active Binaural Sound Localization", Department of Computer Science, York University, completed in March of 1999. Currently working for Platform Computing Corporation as a software developer.
 23. Zusheng Rao: "Fast Retrieval Algorithms for Shape Databases", Department of Computer Science, York University, completed in March of 1999. Currently working for Internet Presence Inc. in Toronto as a software developer.
 24. Jyoti Baid: "Deformable Shape Recognition using Dynamic Programming", started on September 15, 1993, completed on June, 13, 1995.
 25. Hong Zhao: "Robot Position Estimation using Higher Order Moments of Laser Range Profiles.", started on September 15, 1991, completed on May 11, 1994, Department of Computer Science, York University.
 26. Ziqiang Wu, "Visual tracking of coloured objects", started on September 15, 1990, completed on October 1, 1992, Department of Computer Science, York University.
 27. Jeremy Cooperstock, "A Neural Network Operated Vision-Guided Mobile Robot Arm for Docking and Reaching", completed on January 10, 1992. Department of Computer Science, University of Toronto. Presently on the faculty in Electrical Engineering at McGill University.
 28. Bradley Brown, "Visual uncertainty and non-metric relationships in robot navigation: a case study in Robot Orienteering", completed 1/1991, Department of Computer Science, University of Toronto.
 29. Tim Horton, "Model-based shape recognition in the presence of occlusion using a contour-based representation for hypothesis generation and spatial occupancy for hypothesis pruning", completed 6/1990, Department of Computer Science, University of Toronto.
 30. John Lee, "Matching Range Images of Human Faces", completed 6/1990, Department of Computer Science, University of Toronto.
 31. Robert Martin, "Model-based recognition of curved objects from fragmented edge information", completed 6/1990, Department of Computer Science, University of Toronto.
 32. Raymond Lee, "Machine Analysis of Impulse Radar Signals for Ice Profiling", completed 1/1988, Department of Electrical Engineering, University of Toronto. (in collaboration with Canpolar Inc., and co-supervised with A. Venetsanopoulos).

M.Sc. Theses in Progress

1. Zainab Zolaktaf: "Semantic information retrieval in system administration forums", started September 2009, co-supervised with Nur Zincir-Heywood.
2. Fatemeh Riahi: "Wikipedia-based document representation for clustering", started January 2010.
3. Jamiur Rahman: "Scientific Text visualization", started September 2009, co-supervised with Stephen Brooks.
4. Love Kalra: "Recognition of Activities of Daily Living using Machine Learning over a sensor network", started September 2009.

B.Sc. Theses Supervised

1. Patrick Nicholson, “Extracting C/Nc-Values From Massive Text Corpora Via Frequency Filtering”, March 2007, co-supervised with Norbert Zeh, currently PhD student at Univ. of Waterloo.
2. Ian Hopkins, “Optimizing C/NC-value automated term recognition”, May 2006, co-supervised with Norbert Zeh. currently Founder and software developer of LucidHelix Solutions in Saskatchewan.
3. Michael Kershaw, “Linking Relevant Medical Literature To Gem-Encoded Clinical Practice Guidelines”, March 2004, co-supervised with S.R. Abidi, currently pursuing Law degree in Ontario.
4. Singer Wang, “Browsing And Graph Structural Analysis Of The .Gov Collection”, Honour’s thesis, September 2003, co-supervised with J. Janssen. Currently pursuing a Ph.D. at Dalhousie U.
5. Michael Klaas, “A Lattice-Like Data Structure for Efficient Automatic Term Recognition”, Honour’s thesis, May 2003. Currently pursuing a Ph.D. at UBC.
6. C. Rafuse, “Sensor Modelling for an Aquatic Walking Robot”, NSERC USRA, summer 2002
7. A. Nickerson, “Classification via clustering in imbalanced text data sets”, NSERC USRA, summer 2000, co-supervised with N. Japkowicz.

E. SERVICE

1998-now, Faculty of Computer Science, Dalhousie University

- *Graduate Committee Member* (July 2002 - now). I perform reviews of student files for scholarship allocation, I initiate and contribute to policy making, and I keep track of the Faculty of Graduate Studies scholarship allocation spending via a spreadsheet I designed.
- *Sabbatical leave grants review committee* (February 2009 - now). As a member of the committee, I review applications for Sabbatical leave grants by university faculty, and I participate in an annual committee meeting.
- *APICS-CS 2009 Program Chair*. I was responsible for organizing the submission and review process and communication with authors through the EasyChair conference management system. Furthermore, I put together the review panel for the Best paper/poster award competition, designed the review forms, and coordinated the process and compilation of the results.
- *Graduate Director* (February 1999 - July 2002). Main contributions, beyond the day to day administration of the graduate program, student advising and orientation sessions for new graduate students, have been the following:
 - With the Graduate Committee, I articulated, developed and got Faculty approval for academic and operational policies of the Graduate program. I compiled, published and maintain on the Web a complete set of rules and regulations of our graduate program. The new policies and Web resources I created have made it possible to cope with the substantial rate of growth of the program, while improving transparency and fairness, and to promote both the research and the professional component of the program.
(URL: <http://www.cs.dal.ca/~gradweb/gradSite/grad.html>).
 - I established, with the Graduate Committee, policies on graduate student funding, in the form of funding packages (scholarship, teaching and research assistantships) to the students who are academically excellent and show promise of significant contribution to the research of the Faculty.

- I established, with the Graduate Committee, a structure for the PhD program, and especially the comprehensive/qualifying examination process, that is consistent with that of other North American research-intensive computer science departments.
- *Faculty Search Committee.* As a member of the committee, I help screen applicants for faculty positions, assisted with the hosting of the applicants during interviews, and participated in the decision making process of making offers. Meets weekly or more often during interview season.
- *Search & Selection and Tenure & Promotions Regulations Committee Chair.* The committee established regulations for the search & selection and the tenure & promotions process, to ensure quality and fairness in the process in conformance with the DFA collective agreement and the already established standards in older Faculties, such as the Faculty of Science.
- *Dean's Executive Committee, Faculty of Computer Science.* The committee is an advisory body to the Dean. Meets weekly for 1.5 hour.
- *Scholarship Committee, Faculty of Graduate Studies.* The committee reviews new Killam applications and renewals, other miscellaneous scholarship applications in the winter term, and deals with the second-round allocation of FGS scholarship funds in the fall term. It also discusses graduate scholarship policy issues.
- *Council of the Faculty of Graduate Studies.* The Council approves all Faculty decisions having to do with graduate studies at Dalhousie, such as program approvals, program reviews, and policy issues of the Faculty itself (such as membership). Meets monthly for 1.5 hour.
- *Search committee for the Dean of the Faculty of Graduate Studies.* An ad-hoc committee. Met several times for setting the terms of reference of the search, and review applicants. Interviewed long-list applicants over a full day on a Saturday.
- *Electronic Commerce Executive Committee* (Sept. 1998 - May 2000). As a member of the committee (and chair from November 1998 till February of 1999), I participated in formulating policy for the Master's of Electronic Commerce Program, and in student advising. I also authored a web site (in terms of content) including the evolving rules and regulations of the program and to reduce the administrative load of handling inquiries by prospective applicants. The content of the current web site <http://www.ecomm.dal.ca/> evolved out of the web site I created with the rules, and a previous web site that contained an overview and general information about the program.
- *Electronic Commerce course for the Federal Government.* I handled the administration of this course that was offered in Ottawa for the first time in April-June of 1999. My work involved interfacing with the Institute for Government Information Professionals on administrative and academic matters associated with this course offering, interfacing with the instructors, and articulating a structure for this course. The web site <http://www.cs.dal.ca/~eem/igip/igip.html> contains this organization.
- *Organizer of a conference for computer science in secondary education.* This event was aimed at raising the profile and reputation of the new Faculty of Computer Science among high-school teachers of Computer Science in Nova Scotia. The event attracted about 50 teachers from around the Province and consisted of overviews of various aspects of our program given by faculty members, accompanied by a presentation by a representative of the Department of Education and Culture, and concluded with a panel discussion led by teachers (URL: <http://users.cs.dal.ca/~outreach/2004/>).

1991 - 1998, Department of Computer Science, York University

- *Promotion and Tenure Committee*, Department of Computer Science (1994-1995).
- *Executive and Appointments Committee*: Main task involved recruitment of faculty members (1991-1994).
- *Graduate Executive Committee*: Coauthor of the proposal to establish a Doctoral Programme in Computer Science at York University (with P. Dymond and M. Jenkin). The proposal was successful, and the Ph.D. program started in September 1996. Formulated and documented student funding policy and satisfactory progress policy for the Master's degree program. (1994-1995).
- *Space and Communications Science (SCS) Program Coordinator*. Involved detailed discussions and negotiations with students, the Chairs of the Departments of Physics and Earth and Atmospheric Sciences, and the Dean of the Faculty of Science in an assessment and revision of the SCS program, an elite program at York preparing students for work in the space, computer and telecommunications industry. As coordinator for four years, I advised students and worked on curriculum issues. (1991-1996)
- *Seneca Computer Engineering Technology Program*: I worked (with M. Jenkin) on the advanced standing assessment of Seneca Computer Engineering Technology Program. The task involved discussions with members of the Seneca and the York Science faculty (1992-1993).
- *First-Year language Committee*: I worked on a report regarding the suitability of the programming language "Scheme" for the November 1992 meeting of the committee.
- *Ariel Environment Committee*: Administration of the teaching computing facility (1991-1993).
- *Undergraduate Admissions Committee, Faculty of Science* (1992-1995).
- *Curriculum Committees, Department of Computer Science, and Faculty of Science* (1992-1995).
- Frequent speaker on Computer Science, Artificial Intelligence, Computer Vision to high school groups.

1988 - 1991, Department of Computer Science, University of Toronto

- *Artificial Intelligence Seminar coordinator* (1988 - 1991).
- *M.Sc. Admissions Committee* (1990-1991).
- *Information Technology Research Centre (ITRC) Industry Liaison*, (1988 - 1990): Served as the initial contact between ITRC industry affiliates and members of the AI group. A major contribution from this position was the establishment and coordination of the research network between the University of Toronto, York University, Ontario Hydro, Atomic Energy of Canada Ltd, and the National Research Council of Canada. This network was awarded a major grant by PRECARN Assoc. Ltd. for research in the area of vision-guided mobile robotics (also in section on Research funding).